INTERNATIONAL BULLETIN
OF PLANT PROTECTION

1935 No. 10

DISCOVERIES AND CURRENT EVENTS *

French West Africa: Plant Pests in the Ivory Coast (1).

I. *Industrial trees and shrubs.*

(1) Coffee.

Root parasites:—

Heterodera (Caconema) radicicola Greeff.
Coptotermes sjöstedti Holmgren.

Nursery parasites:—

Ophistreptus rugosis Attems.
Pachybolus laminatus Cooke var. *chevalieri* Brölem.
Brachytrypus membranaceus Drury.

Stem and twig parasites:—

Monochammus sierricola White.
Apate monochammus F.
Xyleborus morstatti Haged.

Leaf parasites:—

Lecanium viride Green.
Lecanium coffeae Walk.
Pseudococcus citri Risso (*P. lilacinus* Cooke).
Gracilaria coffeifoliella Mots.
Adoretus hirtellus Cash.
Zonocerus variegatus L.
Metadrepana glauca Hmp.
Toxoptera aurantii Boyer.

Fruit parasites:—

An undetermined Nymphalid.
Stephanoderes coffeae Hag.

(2) Cacao.

Root parasites:—

Heterodera radicicola Greeff.
Neotermes sp.

Stem and twig parasites:—

Mallodon downesi Hope.
Apate monachus F.
Eulophonotus myrmeleon Feld.
Sahlbergella singularis Hagl.
Pseudococcus adonidum L.
Stictococcus sp.

* Under this and the next heading the countries are arranged in French alphabetical order.

(1) Communication from the official correspondent of the Institute, Mr. A. Mallamaire, Colonial Agronomy Ingénieur, Director of the Phytopathological Laboratory, La Mé, Ivory Coast, transmitted to the Institute by the Government General of French West Africa.

Leaf parasites:—

Adoretus hirtellus Cash.
Heliothrips rubrocinctus Giard.
Aphis sp.

Pod parasites:—

Helopeltis sp.
Misotra theobromae Labois.
Ceratitis punctata Wied.
An undetermined weevil.
Stictococcus sp.

(3) Kola.

Stem and twig parasites:—

Phosphorus jansoni Toms.

Leaf parasites:—

Adoretus hirtellus Cash.
Zonocerus variegatus L.
Lecanium coffeae Walk.

Fruit parasites:—

Balanogastris kolae (Desbr. Faust).

(4) Oil palm.

Trunk and bud parasites:—

Rhynchophorus phoenicis F.
Platygenia barbata MacLeay.
Archon centaurus F.

Fruit parasites:—

Aspidiotus destructor Sign.
Chionaspis sp.
An undetermined weevil.

(5) Coconut.

Trunk and bud parasites:—

Rhynchophorus phoenicis F.
Archon centaurus F.

Leaf and fruit parasites:—

Aspidiotus destructor Sign.

II. *Fruit Crops.*

(6) Banana.

Leaf parasites:—

Aspidiotus destructor Sign.
An undetermined Limacodid.

(7) Pineapple.

Pseudococcus sp.

(8) Citrust rees (Orange, Lemon, Mandarin, and Grape fruit).

Fruit parasites:—

Papilio demoleus L.
An undetermined species of Lepidoptera.
Pseudococcus citri Risso.
Lepidosaphes citricola Pack.
Toxoptera aurantii Boyer.

Fruit parasites:—

Ceratitis capitata Wied.

(9) Avocado pear.

Aspidiotus destructor Sign.

(10) Mango.

Mallodon downesi Hope.
An undetermined species of Hemiptera.
Heliothrips rubrocinctus Giard.

III. *Food crops.*

(11) Maize.

Sesamia vuteria Stoll.
Aphis sp.
Eldana saccharina Walk.
Calandra oryzae L.

(12) Groundnut.

Pseudococcus sp.
White ants (undetermined).
Aphis laburni Kalt.
Decatoma affinis Oliv.
Pseudococcus adonidum L.
Ceronema africana Macfie.
Pachymerus cassiae Gyll.

(13) *Kerstingiella geocarpa.*

Pachymerus cassiae Gyll.

(14) Manioc.

Zonocerus variegatus L.
Bemisia sp.

(15) Rice.

An undetermined Noctuid.
Calandra oryzae L.

(16) Sorghum.

Calandra oryzae L.

(17) Sweet Potato.

Cylas sp.

IV. *Vegetables.*

(18) Beans.

Anomala sp.

(19) Native Spinach (*Justicia insularis*).

Pseudococcus adonidum L.

Angola: Locust Movements (*Nomadacris septemfasciata* and *Locusta migratoria migratorioides*) (1).

The locust invasion during the months of March and April, 1925, though of a certain importance, were not so intense as in the preceding months.

During the month of March invasions have been observed in the provinces of Luanda (districts of Luanda, Quanza Norte, Congo, Zaire, and Cabinda), Malange (district of Malange), Benguela (districts of Quanza Bul, Benguela, and Huambo), Huila (districts of Huila and Mossamedes) and Bié (districts of Bié and Moxico).

(1) Communication from Mr. Jorge de Barros Rodrigues Queiroz, Agronomical Ingénieur attached to the Locust Destruction Service, Luanda, transmitted to the Institute by the Government General of the Colony.

As in the preceding months, the locust control has been carried out in all the invaded districts. The results will be found in the following table:—

PROVINCES	Quantity of eggs destroyed (kilos)	Quantity of larvae destroyed		Bands	Quantity of adults destroyed (kilos)
		kilos	m³		
Luanda	1,079	44,439	13	761	900
Malange	5,000	18,050	—	—	15,000
Benguela	164,968	142,051	—	5,240	228,050
Huila	5,746	57,036	—	5	200
Bié	10,402	60,867	—	—	30,300
Total	187,195	322,453	13	6,006	204,450

To the figures given in this table must be added the quantities of eggs and insects destroyed the weight of which it has not been possible to calculate.

During the month of April, 1935, the invasions have affected the provinces of Luanda (districts of Luanda, Quanza Norte, Zaire, and Congo), Benguela (districts of Huambo, Benguela, and Quanza Sul), Huila (districts of Huila and Mossamedes) and Bié (districts of Bié and Moxico).

The results of the control will be seen in the following table:—

PROVINCES	Quantity of eggs destroyed (kilos)	Quantity of larvae destroyed (kilos)	Bands	Quantity of adults destroyed (kilos)
Luanda	21,507	45,439	8,744	4,574
Benguela	13,354	584,420	—	45,520
Huila	—	51,502	128	2,855
Bié	152	56,324	20	10,500
Total	34,993	737,685	8,892	63,449

India: *Chrysomphalus aonidum* in the Bombay Presidency (1).

Citrus fruits and leaves were found infested with this scale insect at Shevri in Poona District. Wherever the scales were in great abundance on fruits, these were found being preyed upon by the larvae and adults of a small lady bird beetle.

(1) Communication from the official correspondent of the Institute, Mr. T. N. JHAVERI, Professor of Entomology, College of Agriculture, Poona, Bombay Presidency, India.

Palestine: Remarks on Orchard and Vegetable Pests (1).

Some recent observations on pests of cultivated plants in Palestine are compiled in the following lines:—

Honeydew excretion and sooty mould on citrus have been noticeable in recent years. In Samaria *Icerya purchasi* is the main honey-dew producer and is kept well under control by *Novius cardinalis*. *Saissetia oleae* and *Ceroplastes floridensis* are other sources of honeydew which are more troublesome in the groves of Judaea. They are less injurious than *Icerya*.

Lepidosaphes beckii starts to spread into other districts. It has been discovered recently near Jaffa and in the Sharon. Exceptional cases of infestation of citrus by *S. hemisphaerica* and by *C. rusci* have been observed.

The participation of *Pseudococcus citri* in the June drop was relatively heavy during the spring of 1934.

An attack of *Ceratitis capitata*, of previously unknown intensity was suffered over the coast-plain. Heavy fruitfall occurred in September and October, 1934. Fruits dropped but the eggs died in the rind without hatching. But the oviposition lead to the dropping of the fruit. This attack on citrus in the fall was preceded in the summer by an unusually heavy attack everywhere on summer fruits (peaches, apricots, etc.). Plums have been observed attacked by the fruit fly for the first time.

Prodenia litura had also an outbreak in summer 1934 and was common on citrus as well as on other crops. In 1933 a local outbreak of *Chloridea obsoleta* was observed in the Sharon. *Papilio machaon* has become a regular guest on citrus.

A survey of the citrus thrips has been made by E. Rivney, and shows that *Heliothrips haemorrhoidalis* and *Thrips tabaci* are the common species. In normal years the damage is negligible and outbreaks like the one of 1931 are isolated occurrences. The red spiders of citrus, which are being studied by H. Klein gain in importance in young citrus groves. *Paratetranychus* sp. and *Epitetranychus althaeae* are the common species. Among other citrus pests, which called attention in recent years, *Chloridea obsoleta*, *Apate monachus*, *Cryptoblabes gnidiella*, *Ephestia vapidella* and *Vespa orientalis* may be mentioned.

Among other orchard pests the following recent additions are of importance:—

Hoplocampa sp. has been encountered in plums at Moza. *Eriosoma lanigera* has developped into quite a pest on apple trees in some villages near Jerusalem. *Parlatoria oleae* is of increasing importance. It infests the fruit of apple, pear, peach, etc., heavily, leading to red spots and discolorations of the fruit; this gives to the fruit a similar aspect to the one resulting from the damage caused by the Pernicious Scale (*Aspidiotus perniciosus*). An unnamed *Rhynchites* is occasionally injurious to pears in the mountains. Two mining moths have been observed for the first time in Palestine. *Recurvaria nanella* in the leaves

(1) Communication from the official correspondent of the Institute, Professor F. S. Bodenheimer, Hebrew University, Jerusalem, Palestine.

of almonds, apricots, peaches, apple, a. s. o.; and *Lithocolletis spinicolella* in those of almonds.

Polychrosis botrana is now well controlled by means of dusting with arsenical compounds. In vegetable gardens *Gryllotalpa gryllotalpa* is successfully controlled by the prescriptions worked out by Martelli in Italy. *Heterodera radicicola* is present everywhere, but no serious damage has been reported in recent years.

Southern Rhodesia: Locust Invasion, 1932-1935 (1).

Monthly Report No. 31. June, 1935.

The locust position throughout June has remained quiet, but swarms of the Red Locust (*Nomadacris septemfasciata*, Serv.) have been recorded from the following districts, namely, Bubi, Chibi, Umtali, Gutu, Mrewa, Lomagundi, and Chilimanzi. The majority of these swarms have been described as 'large'.

A noteworthy occurrence was the receipt of fifth stage hoppers of this species collected in the Shangani Reserve, Bubi District on the 4th of the month, constituting by far the latest seasonal occurrence of hoppers of this species recorded in the Colony during the present cycle.

No definite direction of flight is apparent from the records. At this time of year, the swarms generally are comparatively inactive.

No disease has been recorded or reported amongst the locusts.

No damage has been reported.

LEGISLATIVE AND ADMINISTRATIVE MEASURES

Algeria. — By Decree of the Governor General of Algeria, dated 31 May, 1935, the Decree of 6 December, 1920, by which 14 communes of the department of Constantine were brought under the special scheme for protection against grape phylloxera, is annulled in regard to the commune of Duquesne. The ordinary system of free cultivation of vines of all origins will, however, apply to that commune. (*Journal Officiel de l'Algérie*, Alger, 21 juin 1935, 9e année, nº 25, p. 529).

Germany. — By a Law ('Reichsnaturschutzgesetz') of 26 June, 1935, the protection of natural sites and rare plants and animals is revised. By a Circular of 13 August, 1935, the chief of the forest administration of the Reich ('Reichsforstmeister') is charged with taking all measures relative to that Law, includ-

(1) Communication from the official correspondent of the Institute, Mr. RUPERT W. JACK, F. E. S., Chief Entomologist, Department of Agriculture, Salisbury, Southern Rhodesia.

ing the protection of birds useful to agriculture and forestry. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. September 1935, Bd. VII, Nr. 8, S. 144-151).

Germany (Prussia). — By Amendment of 2 July, 1935, to the prescriptions in force concerning poisons, it is prescribed, *inter alia*, that poisoned cereal seed intended for the control of harmful rodents should be dyed a dark red colour. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. September 1935, Bd. VII, Nr. 8, S. 152-153).

Germany (Saar Basin). — By Notification of 29 July, 1935, it is established that, now that this territory is again under the sovereignty of Germany, all prescriptions of a phytosanitary order issued by the Government Commission are replaced by the corresponding prescriptions in force in Germany. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. September 1935, Bd. VII, Nr. 8, S. 153-154).

Australia (New South Wales) (1). — By Proclamation of 9 July, 1935 *Puccinia graminis* is considered to be a disease for the purposes of the Plant Diseases Act, 1924.

*** Another Proclamation of the same date requires every owner and every occupier of land throughout the State to destroy every bush of *Berberis vulgaris* growing upon such land, for the prevention of the spread of *P. graminis*.

Chile. — By 'Decreto Supremo' No. 298 of 9 April, 1935, Article 5 of the 'Decreto Supremo' No. 105 of 11 February, 1925, regulating the Decree-Law No. 177 on the sanitary control of vegetables, does not apply to soya bean in as much as national production of this oil-bearing seed is not sufficient to meet the requirements of the oil industry.

If, in the parts of soya bean imported into the country, the Phytopathological Service ('Servicio de Sanidad Vegetal') determines the presence of a small number of *Bruchus obtectus*, *Laspeyresia* [*Cydia*] *glycinivorella* or other dangerous insects non-existent in Chile, these parts should, before entering the country, be subjected to fumigation so that the dangerous insects they contain should be completely destroyed.

In cases where the attacks by these insects are considerable, the parts of the seeds should be refused and should be returned within a space of time fixed by the Phytopathological Service. When this time limit has expired, the seeds should be destroyed by fire. (*Boletín del Ministerio de Agricultura*, Santiago del Cile, abril-mayo-junio 1935, año IV, núm. 4, pág. 191).

(1) From documents communicated by the official correspondent of the Institute, Dr. R. J. Noble Biologist, Department of Agriculture, Sydney, New South Wales.

*** By virtue of the 'Decreto Supremo' No. 458 of 27 April, 1935, the introduction of insects useful to agriculture (natural enemies of injurious insects) cannot take place except through the intermediary of the 'Servicio de Sanidad Vegetal' of the Ministry of Agriculture.

Direct importation by private persons of other insects having an economic value, such as bees, silk worms, etc., can only take place in a manner which corresponds entirely with the measures established by the Law on the sanitary control of the importation of plants or parts of plants.

The importation of birds, rodents and other small animals cannot take place without the authorisation of the 'Servicio de Policia Sanitaria Animal', in conformity with the Decree-Law No. 176, and will not be handed over to the interested parties until after the said Service has determined that they are in no way dangerous. (*Ibid.*, pág. 189).

Cyprus. — By Order in Council No. 1643 of 21 June, 1935 the Order in Council No. 1421 of 23 April, 1931 [see this *Bulletin*, 1931, No. 9, p. 166] is amended by the substitution of a new form of inspection certificate and by the insertion of the clause that every person arriving in Cyprus by sea or air shall, immediately after landing, make a written declaration that no living plant material (flowers, fruit, vegetables, bulbs or plant material for propagation), is contained in its personal luggage or on its person other than the articles submitted for inspection and examination. (*Order in Council. — No. 1643. Made under* (1) *The Customs and Excise Regulation Laws, 1879 to (No. 3) 1930.* (2) *The Diseases of Plants Prevention Law, 1893.* (3) *The Customs, Excise and Revenue Law, 1899*, Nicosia, Cyprus, 1935, 1 p.).

Egypt. — By Royal Rescript No. 79 of 10 July, 1935, a local Committee is established for organising the Fourth International Locust Conference which will be held in Cairo in 1936. (*Journal Officiel du Gouvernment Egyptien*, [Le Caire], 18 juillet 1935, 62ème année, nº 64, p. 2).

*** By Decree of 15 July, 1935, the importation of date fruits into Egypt is forbidden without the authorisation of the Ministry of Agriculture (*Ibid.*, p. 3).

United States of America. — The rules and regulations (thirteenth revision) supplemental to Notice of Quarantine No. 48 on account of the Japanese beetle (*Popillia japonica*, Newm.), approved on 29 March and effective on 1 June, 1935, prohibit, unless a certificate or permit has been issued, the interstate shipment of green corn on the cob, beans in the pod, bananas in entire bunches, or in clusters of 25 or more, apples, peaches, blackberries, blueberries huckleberries, or raspberries from any part of the regulated areas, and also prohibit (unless a certificate or permit has issued) the interstate movement of all fruits and vegetables by refrigerator car or motor truck from the District of Columbia, and parts of the States of Delaware, Maryland, New Jersey, Pennsylvania, and Virginia. Refrigerator cars used for loading fruits and vegetables,

other than onions and potatoes, in such area must, prior to loading, be cleaned by the common carrier and kept tightly closed and sealed during the interval between cleaning and loading. Onions and potatoes must be fumigated in the car when such action is deemed necessary by the inspector, and doors and hatches of the cars must be closed or screened. Other details and exceptions are given in regulation 5.

The regulations also prohibit the interstate shipment of plants, sand, soil, earth, peat, compost, and manure from any part of the regulated areas to or through any outside point throughout the year unless a Federal permit or certificate has been secured. Portions of plants and cut flowers are restricted interstate movement only between 15 June and 15 October, inclusive. Details and exceptions are given in regulations 6 and 7.

The regulated areas include the District of Columbia, the entire States of Connecticut, Delaware, Massachussetts, New Jersey, and Rhode Island, and parts of the States of Maine, Maryland, New Hampshire, New York, Pennsylvania, Vermont, Virginia, and West Virginia. The boundaries are shown in regulation 3.

These regulations also place certain restrictions to protect restricted articles from infestation while in transit, require thorough cleaning of vehicles and containers which have been used in transporting restricted products, and provide other safeguards and conditions as provided in regulations 8 to 13, inclusive. (United States Department of Agriculture. Bureau of Entomology and Plant Quarantine. *Japanese Beetle Quarantine. Quarantine No. 48. Revision of Regulations*, [Washington], 1935, 13 pp., 1 map).

France. — By Ministerial Decree of 22 July, 1935, paragraph No. 2 of Article 1 of the Ministerial Decree of 25 February, 1928, determining, for certain fruit trees, the periods during which treatment with arsenical compounds is authorised, is modified except with regard to apple and pear trees.

For these latter, treatment with arsenical compounds is authorised during the period commencing after the harvest is completed and lasting until two months before the following harvest. (Ministère de l'Agriculture. Direction de l'Agriculture, *Bulletin de l'Office de Renseignements Agricoles*, Paris, 1er août 1935, année 1935, nº 15, p. 331).

*** By Decree of 8 August, 1935, the provisions contained in the Law of 28 June, 1934 [see this *Bulletin*, 1934, No. 10, pp. 223-224] directed towards insuring the good marketable quality of fruits and vegetables and towards suppressing the sale of worm-eaten fruits, are made applicable to Algeria. (*Ibid.*, 1er septembre 1935, nos 16-17, p. 351).

Italy. — The Law No. 897 of 1 April, 1935 has transformed into a Law the Royal Decree-Law No. 1692 of 4 October, 1934, containing measures for the control of scale insects of citrus trees [see this *Bulletin*, 1934, No. 12, p. 278]. (*Gazzetta Ufficiale del Regno d'Italia*, Roma, 18 giugno 1935, anno 76º, n. 142, p. 3015).

*** By Ministerial Decree of 12 July, 1935, and by virtue of the provisions of the Law No. 987 of 18 June, 1931, containing measures for the protection of cultivated plants and agricultural products against adverse conditions also for the organisation of services relative thereto [see this *Bulletin*, 1931, No. 9, p. 166], an intercommunal Syndicate for the improvement and development of fruit-growing has been established with head-quarters at Fermo and comprising 46 communes of the province of Ascoli Piceno.

The contribution payable by each member of the Syndicate cannot exceed 1 lira per hectare of land sown and at the same time planted with fruit trees. (*Bollettino Ufficiale del Ministero dell'Agricoltura e delle Foreste*, Roma, 1° agosto 1935, anno VII, n. 22, pp. 3509-3510).

*** The Ministerial Decree of 15 July, 1935, containing regulations on hunting for the year 1935-1936, prohibits, *inter alia*, the hunting and capture of useful birds already enumerated in the Ministerial Decree of 20 July, 1934 [see this *Bulletin*, 1934, No. 9, p. 205]. (*Gazzetta Ufficiale del Regno d'Italia*, Roma, 23 luglio 1935, anno 76°, n. 170, pp. 3724-3725).

Peru. — By ' Resolución Suprema ' No. 70, dated 12 June, 1935, peach mildew (*Sphaerotheca pannosa*) is declared a pest of national agriculture. The rural districts of the province of Arequipa are declared infested by this fungus, also the valleys of Vitor, Siguas and Majes in the department of Arequipa. Owners, tenants and all holders of rural or urban property in the districts of Arequipa and the valleys of Vitor, Siguas and Majes, who cultivate or possess peach trees, varieties of peach trees, almond trees or any other tree attacked by this disease, are obliged to carry out, at their own expense and at the proper time, the treatments indicated by the inspector of crop pests. The Agronomical Station of Arequipa is entrusted with the supervision of the application of regulations issued on this matter by the ' Dirección ' of Agriculture and Animal Husbandry. (*La Vida Agrícola*, Lima (Perú), julio 1° de 1935, vol. XII, no. 140, pág. 555).

*** By ' Resolución ' of 17 June, 1935, approval is given to the regulations concerning the above mentioned ' Resolución Suprema ' No. 70. (*Ibid.*, págs. 555 y 556).

*** By ' Resolución ' of 21 June, 1935, thrips of fruit trees is declared a pest of national agriculture.

At the same time the districts of the province of Arequipa and the valleys of Vitor and Siguas of the said department are declared infested by thrips.

It is compulsory for owners, tenants and holders who cultivate or possess fig trees, guava trees, pear trees and quince trees, to carry out, at their own expense

at the proper time, the measures indicated by the ' Inspección de Plagas Agrícolas '. (*El Peruano*, Lima, 27 de junio de 1935, año 95, tomo I, trimestre II, no. 139, pág. 556).

*** Another ' Resolución ' of the same date declares the ' cochinilla de los troncos de la parra ' (*Phenacoccus* sp.) a pest of national agriculture.

The valley of Majes of the department of Arequipa is declared infested by the said scale insect.

It is compulsory for owners, tenants and holders who possess or cultivate vines, to carry out, at their own expense at the proper time, the sanitary measures indicated by the ' Inspección de Plagas ' (*Ibid.*).

*** A third ' Resolución ' of 21 June, 1935, declares the ' queresa redonda ' (*Selanaspidus articulatus*) and the scale insect of lemon trees (*Aonidia* sp.) pests of national agriculture.

The valley of Majes of the department of Arequipa is declared infested by these parasites.

It is compulsory for owners, tenants and holders in the valleys of Majes and Camaná in the department of Arequipa, who possess or cultivate citrus or other fruit trees attacked by ' queresas ', to carry out, at their own expense at the proper time, the sanitary measures indicated by the ' Inspección de Plagas Agrícolas '. (*Ibid.*).

Uruguay. — By Decree of 14 March, 1935, it is made compulsory to report, under pain of a fine, to the ' Defensa Agrícola ', the appearance of ants and also to destroy ant-hills. (*Revista del Ministerio de Industrias*, Montevideo, Marzo de 1935, año II, vol. III, pág. 48).

Yugoslavia. — By Ministerial Notification No. 35675 II of 10 June, 1935, the Ministerial Notification No. 13308/II of 11 March, 1935 [see this *Bulletin*, 1935, No. 6, p. 139] is modified in the following manner: France and Italy should not be included, for the year 1935, among the countries infested by San José scale (*Aspidiotus perniciosus*), as this scale insect does not exist in these countries. (*Službene Novine*, Beograd, 9 joula 1935, godina XVII, broj 156-XXXVI, str. 550-551).

*** The Regulation No. 50700/11 of August, 1935, establishes the measures relative to production, importation and trade in plant protectives. (*Ibid.*, 19 avgousta 1935, broj 191-XLIV, str. 747-749).

*** The Regulation No. 50570/11 of the same date fixes the rules to be followed for the importation and transit of living plants and parts of plants. (*Ibid.*, str. 750-752).

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ALVARADO, Juan Antonio. Tratado de caficultura práctica. Guatemala, C. A., Tipografía Nacional, 1935, 524 págs., 182 dibujos. Obras consultadas por el Autor, págs. 513 a 517.
[In this treatise on the cultivation of coffee, written from the practical view point of an ordinary planter and based on twelve years observation and experience in the plantations of the Republic of Guatemala, is to a large extent devoted to a description of the diseases and pests of this plant. In fact, of the 524 pages comprised in this volume, 349 are devoted to Chapter VIII which, in addition to general remarks on the subject, includes a section on diseases produced by vegetable parasites as well as weeds which infest the soil in coffee plantations. A second part concerns the insects and other animals injurious to coffee and the last part is devoted to the natural enemies of injurious insects. In each case the means of control of vegetable and animal pests is indicated. Of the 99 figures in black-white or in colour, which illustrate Chapter VIII, the majority are the work of the Author].

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[*Penicillium digitatum*, *P. italicum*, *Colletotrichum gloeosporioides*, *Alternaria citri*, *Diplodia natalensis*, *D. citri*, *Mucor spinescens*, *Sclerotinia libertiana*, *Phytophthora parasitica*, *P. citrophthora*].

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[*Cuscuta epithymum, C. pentagona.* — Among the fungi all belonging to the order Hyphales, which have developed on the seed of dodder and which prevent germination, the most common is *Aspergillus calyptratus* Oud. var. *virescens* n. var. on *C. pentagona*. The Author gives the Latin diagnosis of the new variety].

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The mycelial and pycnidial forms are described here as *Vialina glomerata* n. gen. and n. sp. The sclerotia are largely due to the immature perithecia of a *Microascus* indistinguishable from *M. intermedius* Emm. and Dodge. The synemas correspond to the conidial form (*Stysanus stemonites*) of *M. stysanophorus* (Matt.) Curzi (syn. *St. glomeratus* Sacc.). A description is also given of *V. radicicola* n. sp. isolated from the roots of *Chrysanthemum cinerariaefolium*].

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NOTES

Problems of Plant Pathology and Agricultural Entomology discussed at the XIth International Horticultural Congress. — This Congress, which took place at the International Institute of Agriculture from 16 to 19 September, 1935, adopted, *inter alia*, the following resolutions concerning Plant Pathology and Agricultural Entomology:—

' The Vth Section (Phytopathology) again draws the attention of Governments to the great dangers presented by cryptogamic diseases of cultivated plants and also the often serious losses these diseases cause to agriculture.

' It recommends:—

(1) That scientific phytopathological research on plant pathology, properly so-called, and also on phytopathological genetics should be favoured as much as possible.

(2) That in all countries an organisation should be established for the protection of crops on a collective basis. In order that this collective action should have the most complete results, the Section is of the opinion that it should have a compulsory character.

(3) The Section also draws the attention of all those occupied in phytopathology to ' apoplexy ' of apricot, plum and cherry trees so as to determine the exact causes of this dangerous disease '.

' The Vth Section (Entomology) is strongly of the opinion that the biological control of plant pests should be encouraged by all possible means as the control carried out by the use of poison substances alone cannot bring about the desired results, namely, the destruction of the insects.

' For this reason, it recommends that acclimatisation and dissemination of hyperparasites should be carried out to the greatest possible extent in all countries '.

' The Section requests, with a view to preventing the spreading of San José scale (*Aspidiotus perniciosus*) in the European countries which are free from this pest, that the International Institute of Agriculture should organise as soon as possible an International Conference in which will be studied the measures to be applied both in infested countries and in those which are not infested.

' In these measures it will be necessary to include the unification of the various regulations required for assisting the transit of fruits and also those relative to protection against the introduction of harmful insects '.

The XIIth International Horticultural Congress will be held in Berlin in 1938.

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